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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,224	07/24/2003	William O. Camp JR.	9314-45	4546

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EXAMINER	
YUN, EUGENE	
ART UNIT	PAPER NUMBER
2618	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/626,224	CAMP, WILLIAM O.	
	Examiner	Art Unit	
	EUGENE YUN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7-10,12-16,19-22 and 27-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-10,12-16,19-22 and 27-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 7, 8, 15, 16, 19, 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson (WO 00/74350) in view of Jones et al. (US 6,879,600).

Referring to Claim 1, Rasmusson teaches a wireless terminal, comprising;

a short-range communication module that is configured to communicate first information over a short-range wireless interface with a communication device (see communication between 201 and 203 in fig. 2);

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol (see 225 and 227 of fig. 2); and

a short range communication module (see pg. 15, lines 3-10).

Rasmusson does not teach a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an

Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver according to a signal processing operation, and is configured to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the communication module using the signal processing operation based on whether the communication device supports an enhanced communication mode.

Jones teaches a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver according to a signal processing operation (see col. 5, lines 38-42), and is configured to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the communication module using the signal processing operation based on whether the communication device supports an enhanced communication mode (see col. 10, lines 8-14 noting that the voice is selective encoded as opposed to encapsulated). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Jones to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 3, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol (see 225 and 227 of fig. 2); and

a Bluetooth module (see pg. 15, lines 3-10).

Rasmusson does not teach a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver, and to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the module based on whether the remote device supports an enhanced communication.

Jones teaches a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver (see col. 5, lines 38-42), and to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the module based on whether the remote device supports an enhanced communication (see col. 10, lines 8-14 noting that the voice is selective encoded as opposed to encapsulated). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Jones to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 15, Rasmusson teaches a method of operating a wireless terminal, comprising:

determining whether a remote Bluetooth device supports an enhanced communication mode (see pg. 14, line 30 to pg. 15, line 10); and

communicating first information to a remote Bluetooth Device (see pg. 15, lines 11-32).

Rasmusson does not teach selectively encoding voice in first information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec according to a signal processing operation for communication to the remote device based on whether the remote device supports an enhanced communication mode. Jones teaches selectively encoding voice (see col. 10, lines 8-14 noting that the voice is selective encoded as opposed to encapsulated) in first information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec according to a signal processing operation for communication to the remote device based on whether the remote device supports an enhanced communication mode (see col. 5, lines 38-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Jones to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 2, Rasmusson also teaches the short-range communication module is configured to communicate the first information according to a Bluetooth communication protocol (see pg. 14, line 30 to pg. 15, line 10).

Referring to Claim 16, Jones also teaches encoding voice in second information using at least one of the EPR codec and the AMR codec according to the signal processing operation for transmission to a cellular network (see col. 5, lines 38-42).

Referring to Claims 7 and 19, Rasmusson also teaches the first information comprises audio information, and wherein the processor is further configured to cancel echo in the audio information (see pg. 17, lines 28-31) for communication by the Bluetooth communication module using a same signal processing operation that is used to cancel echo in audio information in the second information communicated by the cellular transceiver in response to the remote Bluetooth device supporting an enhanced communication mode (see pg. 16, lines 1-15).

Referring to Claims 8 and 20, Rasmusson also teaches the first information comprises audio information, and wherein the processor is further configured to reduce noise in the audio information (see pg. 16, lines 27-30) for communication by the Bluetooth communication module using a same signal processing operation that is used to cancel echo in audio information in the second information communicated by the cellular transceiver in response to the remote Bluetooth device supporting an enhanced communication mode (see pg. 16, lines 1-15).

Referring to Claim 29, Jones also teaches selectively encoding the first information by selectively embedding control data in the first information based on whether the remote Bluetooth device supports an enhanced communication mode (see col. 10, lines 61-66).

4. Claims 9, 10, 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson in view of Komsi (US 7,181,252).

Referring to Claim 9, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol (see 225 and 227 of fig. 2).

Rasmusson does not teach a processor that is configured to convolutionally encode the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively convolutionally encode the first information according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode. Komsi teaches a processor that is configured to convolutionally encode the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively convolutionally encode the first information (see col. 6, lines 21-29) according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode (see col. 6, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Komsi to said device of Rasmusson in order to improve the data quality in variable rate communications.

Referring to Claim 10, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol (see 225 and 227 of fig. 2).

Rasmusson does not teach a processor that is configured to interleave the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively interleave the first information according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode. Komsi teaches a processor that is configured to interleave the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively interleave the first information (see col. 6, lines 21-29) according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode (see col. 6, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Komsi to said device of Rasmusson in order to improve the data quality in variable rate communications.

Referring to Claim 21, Rasmusson teaches a method of operating a wireless terminal, comprising:

Determining whether a remote Bluetooth device supports an enhanced communication mode (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10); and

Communicating first information to a remote Bluetooth device (see pg. 5, lines 11-32).

Rasmusson does not teach selectively convolutionally coding first information for communication to the remote device based on whether the remote device supports an enhanced communication mode. Komsi teaches selectively convolutionally coding first information (see col. 6, lines 21-29) for communication to the remote device based on whether the remote device supports an enhanced communication mode (see col. 6, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Komsi to said device of Rasmusson in order to improve the data quality in variable rate communications.

Referring to Claim 22, Rasmusson teaches a method of operating a wireless terminal, comprising:

Determining whether a remote Bluetooth device supports an enhanced communication mode (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10); and

Communicating first information to a remote Bluetooth device (see pg. 5, lines 11-32).

Rasmusson does not teach selectively interleaving first information for communication to the remote device based on whether the remote device supports an

enhanced communication mode. Komsi teaches selectively interleaving first information (see col. 26, lines 21-29) for communication to the remote device based on whether the remote device supports an enhanced communication mode (see col. 6, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Komsi to said device of Rasmusson in order to improve the data quality in variable rate communications.

Referring to Claim 27, Rasmusson does not teach a processor that is configured to convolutionally encode the second information for transmission by the cellular transceiver according to a signal processing operation, and to selectively convolutionally encode the first information according to the signal processing operation for communication by the Bluetooth module based on whether the remote Bluetooth device supports an enhanced communication mode. Komsi teaches a processor that is configured to convolutionally encode the second information for transmission by the cellular transceiver according to a signal processing operation, and to selectively convolutionally encode the first information (see col. 6, lines 21-29) according to the signal processing operation for communication by the Bluetooth module based on whether the remote Bluetooth device supports an enhanced communication mode (see col. 6, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Komsi to said device of Rasmusson in order to improve the data quality in variable rate communications.

Referring to Claim 28, Komsi also teaches a processor that is configured to interleave the second information fro transmission by the cellular transceiver according

to a signal processing operation, and to selectively interleave the first information (see col. 6, lines 21-29) according to the signal processing operation for communication by the Bluetooth module based on whether the remote Bluetooth device supports an enhanced communication mode (see col. 6, lines 21-29).

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson and Jones and further in view of Kim (US 2002/0065045).

Referring to Claim 12, the combination of Rasmusson and Jones does not teach the remote Bluetooth device comprising a cordless telephone base station that is configured to be connected to a public switched telephone network (PSTN) 60 (fig. 2), and wherein the processor is configured to communicate through the Bluetooth module with the cordless telephone base station. Kim teaches the remote Bluetooth device comprising a cordless telephone base station that is configured to be connected to a public switched telephone network (PSTN), and wherein the processor is configured to communicate through the Bluetooth module with the cordless telephone base station (see paragraph [0023]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Kim to the modified device of Rasmusson and Jones in order to better enhance the quality of short range communications.

Referring to Claim 13, Rasmusson also teaches the processor is configured to selectively embed control data in the first information based on whether the remote Bluetooth device supports an enhanced communication mode, and wherein the control

data comprises a command to control operation of the cordless telephone base station (see pg. 15, lines 11-32).

Referring to Claim 14, Kim also teaches the control data instructs the cordless telephone base station to terminate a call on the PSTN (see paragraph [0023]).

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 7-10, 12-16, 19-22, and 27-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE YUN whose telephone number is (571)272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571)272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Yun
Examiner
Art Unit 2618

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